AMENDMENT

1. (Currently Amended) Anthraquinone dye compounds having the formulae: formula II. or formula VI.:

$$\begin{array}{c|c} & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\$$

$$(R_{5}S)_{m_{1}} O NH X_{1} - L \xrightarrow{}_{m} Z - Q$$

$$(R_{5}S)_{m_{1}} O NH X_{1} - L \xrightarrow{}_{m} Z - Q$$

$$R_{3} X_{1} - L \xrightarrow{}_{m} Z - Q$$

$$VI. \begin{array}{c} R_s\text{-S} & O & \text{NH-L}_1\text{-Z-Q} \\ \\ Q\text{-Z-L}_1\text{-NH} & O & S\text{-R}_5 \end{array}$$

VII.
$$R_9$$
 NH O S
 X_2 CH2
 $C(R_8)$ =CH2
 X_2 CH2

$$R_5 - S$$
 O $S - L_1 - Z - Q$
 $Q - Z - L_1 - S$ O $S - R_5$

$$XII.$$

$$R_{5}S$$

$$Q$$

$$S$$

$$X - L \xrightarrow{m} Z - Q$$

$$X - L \xrightarrow{m} Z - Q$$

$$\begin{array}{c|c}
 & N-N-L-Z \xrightarrow{M} Q \\
 & S-C \xrightarrow{N} C \\
 & R_2
\end{array}$$

$$XIII.$$

$$R_5-S \xrightarrow{Q} S-C \xrightarrow{N} N-L-Z \xrightarrow{M} Q$$

$$N=C \xrightarrow{R_2} R_2$$

$$R_{5} - S \qquad O \qquad S \qquad X_{2}CH_{2} \qquad C(R_{8}) = CH_{2}$$

$$X_{2}CH_{2} \qquad C(R_{8}) = CH_{2}$$

XVIII. R
$$X_{4}CH_{2}$$

$$C(R_{8}) = CH_{2}$$

$$X_{4}CH_{2}$$

$$C(R_{8}) = CH_{2}$$

$$\begin{array}{c|c}
C(R_{\theta}) = CH_{2} \\
XXI. & R \\
X_{4}CH_{2} & C(R_{\theta}) = CH_{2}
\end{array}$$

wherein:

R is selected from C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy and halogen;

 R_1 is selected from C_1 - C_6 -alkyl, substituted C_1 - C_6 -alkyl, C_3 - C_8 -alkenyl, C_3 - C_8 -cycloalkyl, aryl-and aryl or - L_1 -Z-Q;

 R_2 =-selected from hydrogen is hydrogen, C_1 - C_6 -alkyl, substituted C_1 - C_6 -alkyl, C_3 - C_8 -cycloalkyl-and aryl or aryl;

R₃ and R₄ are independently selected from C₄ - C₆-alkyl and bromine;

 R_5 is selected from C_1 - C_6 -alkyl, substituted C_1 - C_6 alkyl, C_3 - C_8 -cycloalkyl, aryl, heteroaryl, - L_1 -Z-Q,

R₆ is selected from

 R_4 is selected from hydrogen, substituted or unsubstituted C_4 — C_6 -alkyl, C_4 — C_6 -alkoxy, halogen, hydroxy, substituted or unsubstituted C_4 — C_6 -alkylthio, sulfamoyl and substituted sulfamoyl;

R₈ is selected from hydrogen and hydrogen or C₁ - C₆-alkyl;

Ro is selected from the groups represented by R1 and L Z - Q;

R₁₀ is selected from hydrogen and halogen;

X is a covalent bond or a divalent linking group selected from -O-, -S-, -SO₂-, -CO₂-, -CO₁-, -CON(Y) - and -SO₂N(Y)-, wherein Y is selected from hydrogen, C_1 - C_6 -alkyl, substituted C_1 - C_6 -alkyl, C_3 - C_8 -cycloalkyl, C_3 - C_8 -alkenyl, aryl and aryl or -L-Z- Q;

X₁ is selected from O , S , SO₂ and SO₂N(Y) ;

 X_2 is selected from -CO₂ - and -SO₂N(Y₁), wherein Y₁ is a group selected from hydrogen, C₁-C₆-alkyl, substituted C₁-C₆-alkyl, C₃-C₈-alkenyl, C₃-C₈-cycloalkyl, aryl, heteroaryl and or -CH₂-p-C₆H₄-C(R₈)=CH₂;

X₂ is selected from CO₂, SO₂N(Y);

 X_4 is selected from $-CO_2$, -O and $-SO_2N(Y_1)$;

L is a divalent linking group selected from C_1 - C_8 -alkylene, C_1 - C_6 -alkylene-arylene, arylene, C_1 - C_6 -alkylene-arylene - C_1 - C_6 -alkylene, C_3 - C_8 -cycloalkylene, C_1 - C_6 -alkylene, C_1 - C_6 -alkylene - C_1 - C_6 -alkylene - C_1 - C_6 -alkylene - C_1 - C_6 -alkylene and C_2 - C_6 -alkylene- C_1 - C_6 -alkylene- C_1 - C_6 -alkylene - C_1 - C_6 -alkylene and C_2 - C_6 -alkylene- C_1 - C_6 -alkylene- C_1 - C_6 -alkylene - C_1 - C_6 -alkylene and C_2 - C_6 -alkylene- C_1 - C_1 - C_2 - C_1 - C_2 - C_1 - C_2 - C_3 - C_4 - C_4 - C_4 - C_5 - C_5 - C_5 - C_6

 L_1 is a divalent linking group selected from C_2 - C_6 -alkylene, C_1 - C_6 -alkylene- C_3 - C_8 -cycloalkylene- C_1 - C_6 -alkylene, C_1 - C_6 -alkylene-arylene, C_3 - C_8 -cycloalkylene, and C_2 - C_6 -alkylene- C_1 - C_2 - C_6 -alkylene- C_1 - C_2 - C_6 -alkylene- C_1 - C_1 - C_2 - C_6 -alkylene- C_1 - C_2 - C_6 -

L₂-is selected from C₂-C₆-alkylene, C₁-C₆-alkylene and C₁-C₆-alkylene C₂-C₈-cycloalkylene C₁-C₆-alkylene;

Z is a divalent group selected from -O-, -S-, -NH-, -N(C_1 - C_6 -alkyl)-, -N(C_3 - C_8 alkenyl)-, -N(C_3 - C_8 cycloalkyl)-, -N(aryl)-, -N(SO_2C_1 - C_6 -alkyl) and -N(SO_2 aryl)-, provided that when Q is a photopolymerizable optionally substituted maleimide radical, Z represents a covalent bond;

Q is an ethylenically-unsaturated, photosensitive polymerizable group; and $\frac{m}{m}$ and $\frac{m_1}{m_1}$ each is 0 or 1.

2. (Currently amended) Anthraquinone compounds according to Claim 1 wherein the ethylenically-unsaturated, photosensitive copolymerizable groups represented by Q are selected from the following organic radicals:

Ia $-COC(R_{11})=CH-R_{12}$

IIa $-CONH-COC(R_{11})=CH-R_{12}$

IIIa -CONH-C₁ - C₆-alkylene OCOC(R₁₁) -CH=CH-R₁₂

IVa $\begin{array}{c} R_{13} \\ -\text{CO-C-NHCOC(R}_{11}) = \text{CH-R}_{12} \\ R_{14} \end{array}$

Va -COCH=CH-CO₂R₁₅

VIa -CO-C(R₁₁)=CH₂

VIIa -CH₂- $\langle C(R_{11})=CH_2 \rangle$

IXa $-SO_2C(R_{11})=CH_2$

 $Xa \qquad \stackrel{O}{\longrightarrow} R_{16} \qquad And$

$$\begin{array}{c} \text{CH}_2 & \text{CH}_2 \\ \text{II} & \text{-COCH}_2\text{CCO}_2\text{R}_{15} \text{ and/or -COCCH}_2\text{CO}_2\text{R}_{15} \end{array}$$

XIIIa
$$O CH_2$$

$$-N CH_2$$

wherein:

R₁₁ is selected from hydrogen and hydrogen or C₁-C₆-alkyl;

 R_{12} is selected from hydrogen; C_1 - C_6 -alkyl; phenyl and or phenyl substituted with one or more groups selected from C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy, -N(C_1 - C_6 -alkyl), nitro, cyano, C_1 - C_6 -alkoxycarbonyl, C_1 - C_6 -alkanoyloxy and halogen; 1- and 2-naphthyl 1- or 2-naphthyl which may be substituted with C_1 - C_6 -alkyl or C_1 - C_6 -alkoxy; 2- and 3-thienyl 2- or 3-thienyl which may be substituted with C_1 - C_6 -alkyl or halogen; or 2- or 3-furyl which may be substituted with C_1 - C_6 -alkyl;

 R_{13} and R_{14} are-selected from hydrogen, C_1 - C_6 -alkyl, substituted C_1 - C_6 -alkyl, aryl or may be combined to represent a $-[-CH_2-]_{3-5}$ - radical;

 R_{15} is selected from hydrogen, C_1 - C_6 -alkyl, substituted C_1 - C_6 -alkyl, C_3 - C_8 -alkenyl, C_3 - C_8 -cycloalkyl and aryl or aryl;

 R_{16} is selected from hydrogen, C_1 - C_6 -alkyl-and aryl or aryl.

3. (Canceled)

4. (Original) Anthraquinone compounds according to Claim 2 having the formula:

wherein Z is -O-.

Claims 5 – 7 (Canceled)

8. (Original) Anthraquinone compounds according to Claim 2 having the formula:

VI.

wherein Z is -O-.

Claims 9 – 18 (Canceled)

- 19. (Original) Anthraquinone compounds according to Claim 2 wherein Q is organic radical la.
- 20. (Original) Anthraquinone compounds according to Claim 2 wherein Q is organic radical la wherein R_{11} is hydrogen or methyl and R_{12} is hydrogen.
- 21. (Original) Anthraquinone compounds according to Claim 2 wherein Q is organic radical VIIa.
- 22. (Original) Anthraquinone compounds according to Claim 2 wherein Q is organic radical VIIa wherein R_{11} is hydrogen.

23. (Original) Anthraquinone compounds according to Claim 2 wherein Q is organic radical VIIIa.

24. (Original) Anthraquinone compounds according to Claim 2 wherein Q is organic radical VIIIa wherein R_{11} is hydrogen or methyl and R_{13} and R_{14} are methyl.

Claims 25 and 26 (Canceled)

27. (Original) Anthraquinone compounds according to Claim 8 wherein L_1 is $-CH_2C(CH_3)_2CH_2$ - and R_5 is aryl.

Claims 28 - 46 (Canceled)

- 47. (Original) A coating composition comprising (i) one or more polymerizable vinyl compounds, (ii) one or more of the dye compounds of Claim 1, and (iii) a photoinitiator.
- 48. (Currently amended) A coating composition according to Claim 47 comprising (i) one or more polymerizable vinyl compounds, (ii) one or more of the dye compounds of Claim 2 present in a concentration of about 0.05 to 15 weight percent based on the weight of component (i), and (iii) a photoinitiator present in a concentration of about 1 to 15 weight percent based on the weight of the polymerizable vinyl compound(s) present in the coating composition.
- 49. (Original) A coating composition according to Claim 48 wherein the polymerizable vinyl compounds comprise a solution of a polymeric, polymerizable vinyl compound selected from acrylated and methacrylated polyesters, acrylated and methacrylated polyethers, acrylated and methacrylated epoxy polymers, acrylated or methacrylated urethanes, and mixtures thereof, in a diluent selected from monomeric acrylate and methacrylate esters.

50. (Currently amended) A polymeric coating composition comprising a polymer of one or more acrylic acid esters, one or more methacrylic acid esters and/or other or other copolymerizable vinyl compounds, having copolymerized therein one or more of the dye compounds defined in Claim 1.

- 51. (Currently amended) A polymeric <u>coating</u> composition according to Claim 50 comprising a coating of an acrylic polymer of one or more acrylic acid esters, one or more methacrylic acid esters or a mixture thereof having copolymerized therein one or more of the dye compounds defined in Claim 2.
- 52. (Currently amended) A polymeric coating composition according to Claim 50 comprising a coating of an unsaturated polyester containing one or more maleate/fumarate residues; one or more monomers which contain one or more vinyl ether groups, one or more vinyl ester groups, or a combination thereof, and, optionally, one or more acrylic or methacrylic acid esters; or a mixture thereof having copolymerized therein one or more of the dye compounds defined in Claim 2.
- 53. (Currently amended) A polymeric coating according to Claim 51 containing from about 0.05 to 15.0 weight percent of the residue of one or more of the dye compounds of Claim 2 based on the weight of the coating.